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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,314	04/09/2001	Steven C. Dzik	Dzik 7	7112
46363	7590	07/06/2005	EXAMINER	
MOSER, PATTERSON & SHERIDAN, LLP/ LUCENT TECHNOLOGIES, INC 595 SHREWSBURY AVENUE SHREWSBURY, NJ 07702			PHILPOTT, JUSTIN M	
			ART UNIT	PAPER NUMBER
			2665	

DATE MAILED: 07/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/829,314	DZIK, STEVEN C.	
	Examiner	Art Unit	
	Justin M. Philpott	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Arguments***

I. Applicant's arguments filed March 4, 2005 have been fully considered but they are not persuasive.

Specifically, applicant argues that Kwan does not teach the newly added limitations to the amended claims 1-26. However, contrary to applicant's general assertion, Kwan teaches such limitations as discussed in the following office action. Further, Kwan teaches as all of the limitations recited in the originally filed claims 27-35 as discussed in the previous office action, and repeated herein.

Furthermore, with respect to the amended claims, applicant argues that Kwan does not teach "adjust[ing] one or more pitch periods" wherein "the length of the packet currently being processed is either extended or reduced to compensate for the delay time of receiving [the] next packet" (page 11, third paragraph). Applicant further specifies that "Applicant's invention does not create a new frame to replace a missing frame, but rather adjusts the length of the current frame being processed, and the play time (i.e., length) of the next frame that will be processed" (Id.). However, while applicant's invention may in fact differ from the teachings in Kwan, as argued by applicant, applicant has failed to claim such an invention, and thus, has failed to distinguish applicant's claims from the teachings of Kwan. That is, applicant's amended claims do *not* recite the above-described invention. Rather, applicant's claims instead recite a much broader invention which is clearly anticipated by Kwan as discussed in the following office action. Accordingly, in response to applicant's argument that the references fail to show certain

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features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "adjust[ing] one or more pitch periods" wherein "the length of the packet currently being processed is either extended or reduced to compensate for the delay time of receiving [the] next packet" and "not creat[ing] a new frame to replace a missing frame, but rather adjust[ing] the length of the current frame being processed, and the play time (i.e., length) of the next frame that will be processed") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Thus, applicant's argument is not persuasive.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2-4 and 8-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2-4 recite the limitation "two adjacent pitch periods" (claim 2, line 2; claim 3, line 3; claim 4, lines 3-4) as well as "each new pitch period (claim 3, line 2; claim 4, line 3) without first defining "a pitch period". It is unclear what applicant intends to claim by such language. Clarification is required.

Claims 8-10 and 12 recite the limitation "the play time of audio information". There is insufficient antecedent basis for this limitation in the claim. Applicant may overcome this

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rejection by amending claims 8-10 to instead recite “the play out time” which is recited in claim 5 upon which claims 8-10 depend, and amending claim 12 to instead recite “a play time”. It is also noted herein that claim 11 recites “the play time”, however, since claim 11 is dependent upon claim 7, it is understood that “play time” in claim 11 refers to the “target play time” introduced in claim 7.

Claim 10 is dependent upon claim 9, and is therefore rejected for the same reason discussed above regarding claim 9.

Claim 11 recites “its latency period” without first defining a “latency period”. It is unclear what applicant intends to claim by such language. Clarification is required.

Claim 13 recites “said audio samples” (lines 5-6). There is insufficient antecedent basis for this limitation in the claim. Applicant may overcome this rejection by amending the claim to instead recite “said audio information”.

Claims 14-24 depend upon claim 13, and are therefore rejected for the same reason discussed above regarding claim 13.

Claims 14-16 recite the limitation “two adjacent pitch periods” (claim 14, line 2; claim 15, line 3; claim 16, lines 3-4) as well as “each new pitch period (claim 15, lines 2-3; claim 16, line 3) without first defining “a pitch period”. It is unclear what applicant intends to claim by such language. Clarification is required.

Claims 20-22 recite the limitation “the play time of audio information”. There is insufficient antecedent basis for this limitation in the claim. Applicant may overcome this rejection by amending claims 20-22 to instead recite “the play out time” which is recited in claim 17 upon which claims 20-22 depend. It is also noted herein that claims 23 and 24 also recite “the

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play time”, however, since claims 23 and 24 are is dependent upon claim 19, it is understood that “play time” in claims 23 and 24 refers to the “target play time” introduced in claim 19.

Claim 24 recites the limitation “said nonsequential packet” (line 4). There is insufficient antecedent basis for this limitation in the claim. Applicant may overcome this rejection by amending the claim to instead recite “said retrieved packet” (or alternatively, if applicable, “said second packet”). It is also noted that claim 12 similarly recites “the retrieved packet” (line 5), however, applicant may have intended to instead recite “the second packet”.

Claim 25 recites the limitation “said instructions” (line 5) and “said audio samples” (line 9). There is insufficient antecedent basis for this limitation in the claim. Applicant may overcome this rejection by amending the claim to instead recite “instructions” and “said audio information”, respectively.

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-35 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent

Application Publication No. US 2003/0112796 by Kwan.

Regarding claim 1, Kwan teaches a method of processing a sequence of audio samples, each of the samples being stored within a respective packet, the method comprising: retrieving a

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packet from an input buffer (e.g., see paragraph 0227 regarding generating voice parameters based upon buffered voice samples); determining pitch associated with audio information contained within the packet (e.g., see paragraph 0230 regarding calculating the pitch associated with the voice sample); determining whether a second packet of the audio samples has arrived at the input buffer (e.g., see paragraph 0228 regarding experiencing a loss of a subsequent packet containing voice samples); and adapting the pitch of the audio information within the retrieved packet in an instance where the second packet has not timely arrived (e.g., see paragraphs 0243-0252 regarding pitch period and voicing calculation and paragraphs 0223-0242 regarding determining when the subsequent packet is lost, or not timely arrived).

Regarding claim 2, Kwan teaches at least two pitch periods are synthesized to produce new respective pitch periods (e.g., see paragraphs 0243-0252 regarding calculating pitch periods over a range of pitch values).

Regarding claim 3, Kwan teaches each new pitch period replaces two adjacent periods (e.g., see paragraphs 0267-0268 wherein replacement may occur for more than one lost packet).

Regarding claim 4, Kwan teaches each new pitch period is inserted between two adjacent periods (e.g., see paragraph 0268).

Regarding claim 5, Kwan teaches determining a scheduled play out time of the audio information within the second packet (e.g., see paragraph 0218 and 0222 regarding determining target hold times and voice synchronizer).

Regarding claim 6, Kwan teaches determining an estimated time of arrival of a sequentially following packet (e.g., see paragraph 0217 regarding voice traffic comprising isochronous transmission).

Regarding claim 7, Kwan teaches a target play time comprises the ETA and a latency period of the sequentially following packet (e.g., see paragraphs 0217-0218 regarding target hold times and isochronous transmission).

Regarding claim 8, Kwan teaches the play out time of audio information within the second packet is reduced in response to an early arrival of a sequentially following packet at the input buffer (e.g., see paragraph 0220 regarding decreasing the holding time).

Regarding claim 9, Kwan teaches the play out time of audio information within the second packet is not reduced by a factor greater than two (e.g., see paragraph 0220 regarding decreasing the holding time by transferring only one of the voice frames to the media queue).

Regarding claim 10, Kwan teaches the play time of audio information within the second packet is reduced by deleting at least one pitch period of a plurality of pitch periods contained within the audio information (e.g., see paragraph 0244-0253, 0258 and 0268 regarding stretching pitch periods to cover gaps in time due to lost packets, whereby a pitch period is deleted).

Regarding claim 11, Kwan teaches the play time of audio information within the second packet is expanded if a next packet arrives during its latency period (e.g., see paragraph 0228 regarding elapsing of a timeout period).

Regarding claim 12, Kwan teaches the play tie of audio information within the second packet is adjusted to compensate for adjustments of play time of the retrieved packet (e.g., see paragraph 0228, 0244-0252, 0258 and 0268 regarding determining a pitch period, and synthesizing voice based on the pitch period).

Regarding claim 13, Kwan teaches an apparatus comprising: a first VoIP gateway (e.g., see paragraph 0077 regarding gateway and the system comprising VoIP) for retrieving a packet



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from an input buffer, the first VoIP gateway (e.g., see paragraph 0077) determining pitch associated with audio information contained within the packet (e.g., see paragraph 0230 regarding calculating the pitch associated with the voice sample), the first VOIP gateway determining whether a second packet of the audio information has arrived at the input buffer (e.g., see paragraph 0228 regarding experiencing a loss of a subsequent packet containing voice samples), and adapting the pitch of the audio information within the retrieved packet in an instance where the second packet has not timely arrived (e.g., see paragraphs 0243-0252 regarding pitch period and voicing calculation and paragraphs 0223-0242 regarding determining when the subsequent packet is lost, or not timely arrived).

Regarding claim 14, Kwan teaches at least two pitch periods are synthesized to produce new respective pitch periods (e.g., see paragraphs 0243-0252 regarding calculating pitch periods over a range of pitch values).

Regarding claim 15, Kwan teaches each new pitch period replaces two adjacent periods (e.g., see paragraphs 0267-0268 wherein replacement may occur for more than one lost packet).

Regarding claim 16, Kwan teaches each new pitch period is inserted between two adjacent periods (e.g., see paragraph 0268).

Regarding claim 17, Kwan teaches the gateway determines a scheduled play out time of the audio information within the second packet (e.g., see paragraph 0218 and 0222 regarding determining target hold times and voice synchronizer).

Regarding claim 18, Kwan teaches the gateway determines an estimated time of arrival of a sequentially following packet (e.g., see paragraph 0217 regarding voice traffic comprising isochronous transmission).

Regarding claim 19, Kwan teaches a target play time comprises the ETA and a latency period of the sequentially following packet (e.g., see paragraphs 0217-0218 regarding target hold times and isochronous transmission).

Regarding claim 20, Kwan teaches the play out time of audio information within the second packet is reduced in response to an early arrival of a sequentially following packet at the input buffer (e.g., see paragraph 0220 regarding decreasing the holding time).

Regarding claim 21, Kwan teaches the play out time of audio information within the second packet is not reduced by a factor greater than two (e.g., see paragraph 0220 regarding decreasing the holding time by transferring only one of the voice frames to the media queue).

Regarding claim 22, Kwan teaches the play time of audio information within the second packet is reduced by deleting at least one pitch period of a plurality of pitch periods contained within the audio information (e.g., see paragraph 0244-0253, 0258 and 0268 regarding stretching pitch periods to cover gaps in time due to lost packets, whereby a pitch period is deleted).

Regarding claim 23, Kwan teaches the play time of audio information within the second packet is expanded if a next packet arrives during its latency period (e.g., see paragraph 0228 regarding elapsing of a timeout period).

Regarding claim 24, Kwan teaches the play time of audio information within the second packet is adjusted to compensate for adjustments of play time of the retrieved packet (e.g., see paragraph 0228, 0244-0252, 0258 and 0268 regarding determining a pitch period, and synthesizing voice based on the pitch period).

Regarding claim 25, Kwan teaches an apparatus for expanding and reducing audio information within packets, comprising: a processor (e.g., selector 196 within lost packet

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recovery engine, see paragraph 0226 and FIG. 12); and a storage device (e.g., voice analyzer 192, see paragraph 0227) coupled (e.g., via 194) to the processor (e.g., selector 196 within lost packet recovery engine, see paragraph 0226 and FIG. 12) for controlling the processor, the processor operative with the instructions to: retrieve a packet from an input buffer (e.g., see paragraph 0227 regarding generating voice parameters based upon buffered voice samples); determine pitch associated with audio information contained within the packet (e.g., see paragraph 0230 regarding calculating the pitch associated with the voice sample); determine whether a second packet of the audio information has arrived at the input buffer (e.g., see paragraph 0228 regarding experiencing a loss of a subsequent packet containing voice samples); and adapt the pitch of the audio information within the retrieved packet in an instance where the second packet has not timely arrived (e.g., see paragraphs 0243-0252 regarding pitch period and voicing calculation and paragraphs 0223-0242 regarding determining when the subsequent packet is lost, or not timely arrived).

Regarding claim 26, Kwan teaches computer readable medium having stored thereon a plurality of instructions including instructions which, when executed by a processor (e.g., selector 196 within lost packet recovery engine, see paragraph 0226 and FIG. 12), ensures the processor to perform a method comprising: retrieving a packet from an input buffer (e.g., see paragraph 0227 regarding generating voice parameters based upon buffered voice samples); determining pitch associated with audio information contained within the packet (e.g., see paragraph 0230 regarding calculating the pitch associated with the voice sample); determining whether a second packet of the audio samples has arrived at the input buffer (e.g., see paragraph 0228 regarding experiencing a loss of a subsequent packet containing voice samples); and

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adapting the pitch of the audio information within the second packet in an instance where the second packet has not timely arrived (e.g., see paragraphs 0243-0252 regarding pitch period and voicing calculation and paragraphs 0223-0242 regarding determining when the subsequent packet is lost, or not timely arrived).

Regarding claim 27, Kwan discloses retrieving a packet from an input buffer; determining at least one parameter of audio information contained within said packet, wherein the parameter comprises a pitch; and adapting the determined parameter to provide an appropriate parameter transition to audio information within a non-sequentially following packet, wherein the transition is at least a portion of a pitch period that is synthesized to bridge a gap between the retrieved and non-sequential packets (paragraphs [0224]-[02321]). Kwan also discloses adjusting a playtime for the retrieved packet based on a time of arrival of a sequentially following packet (paragraphs [0215]-[0222]).

Regarding claims 28-30, Kwan discloses that the voice traffic is sent from a far end in an isochronous manner, meaning one packet after the other without delay (paragraph [0217]). The estimated time of arrival of a sequentially following packet is necessarily immediately after a currently received packet. Thus, the target holding time of Kwan comprises an estimated arrival time as well as an estimated worst case jitter, which meets the limitation of a latency.

Regarding claims 31 and 32, Kwan discloses expanding a play time of a received packet by synthesizing voice until the voice decoder receives a voice packet, or a timeout period has elapsed (paragraph [0228]). This synthesizing of voice requires determining a pitch period and synthesizing voice based on the pitch period (paragraphs [0244]-[0252], [0258], and [0268]).

Regarding claim 33, Kwan discloses decreasing the holding time rapidly to minimize excessive end to end delay, which is accomplished by passing two voice frames to the voice decoder in one decoding interval but only one of the voice frames is transferred to the media queue (paragraph [0220]). This meets the limitation of reducing the play time of a packet. Kwan does not disclose reducing the play time by greater than a factor of two.

Regarding claim 34, Kwan discloses that two voice frames may be sent to the voice decoder, and only one may be sent to the media queue in order to compress the voice data, as mentioned above. Also, Kwan discloses stretching pitch periods to cover gaps in time due to lost packets (paragraphs [0244]-[0252], [0258], and [0268]). It follows that when only one frame is played, when normally two would be played, that one frame is deleted, thus a pitch period is deleted.

Regarding claim 35, Kwan discloses that the reducing of holding times may be performed in response to excessive end to end delays created by long holding times (paragraph [0220]).

### *Conclusion*

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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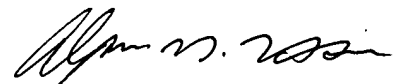
will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin M. Philpott whose telephone number is 571.272.3162. The examiner can normally be reached on M-F, 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D. Vu can be reached on 571.272.3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Justin M Philpott



**ALPUS H. HSU**  
**PRIMARY EXAMINER**